AML HANDBOOK

TAB III PROJECT MANAGEMENT

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Mining and Minerals Branch
Land Resources Division-WASO
National Park Service

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INTRODUCTION

This booklet outlines how to manage an AML mine closure and remediation project. Topics include the elements of project management, project planning, levels of engineering detail, management of project construction, a checklist of quality assurance procedures, and finally a brief description of project management tools. Where appropriate, the discussion focuses on the unique aspects of AML projects. With this booklet, park staff have the guidance to manage small engineering and construction projects. For more detailed guidance, refer to the documents listed in the following box.

The planning phase for construction projects is most important in that early decisions affect the ultimate design and cost of a project. It is during this phase that the size, function, and technical performance requirements are determined and the budget is set. Once preliminary decisions are made, the nature and cost of a project are virtually predetermined.

The planning phase commences at initial identification of a project, and continues until receipt of detailed design and construction funds. Then the execution or construction phase begins and continues until completion and client (NPS) acceptance of the construction work.

LESSONS LEARNED

It is important to focus some attention on problems that repeatedly plague construction projects. These problem areas with recommended solutions include the following:

Failure to Design to Requirements. A tendency exists during design of a project to improve design by consideration of only the benefits of different design options. This tendency results in changes to project scope and cost that are substantially in excess of initial baseline estimates. Avoid this problem by insisting on a "design to cost" policy and tight fisted adherence to the project functional requirements.

Failure to Establish Realistic Baselines. There is a tendency to scope projects and establish schedules in such a manner that initial estimates are favorable. Establish baselines for cost, schedule, and technical requirements only when there is sufficient data to define realistic estimates. Further, require a careful review of project data by an independent organization prior to establishing baseline estimates.

Inadequate Change Control Procedures. Inadequate change control procedures lead to large scope and schedule changes that result in large cost increases. Change control procedures should be detailed, include cost considerations, and independent review.

Inadequate and Inaccurate Project Status Reports. To perform properly, project managers must continuously assess and analyze the project status. This analysis is impossible if reports are inaccurate or untimely. Minimize this problem by identifying early in the planning process what information is needed and when, and requiring the information in the contract. In addition, periodically verify submitted data against the data sources, and make corrections to the reporting procedure as necessary.

Lack of Experienced Project Management Staff. Personnel assigned or hired to manage a project must be experienced and knowledgeable in the specific type of construction. Assigned staff must be trained in the techniques for measuring performance against baselines, must have interdisciplinary experience related to the work, and must understand management techniques for successful project management.

Insufficient Use of Incentives. Even though incentives have been effective in the construction industry, the Federal government has not used incentives frequently. An incentive contracting policy could provide significant benefits.